

Notice of Allowability

Application No.

09/645,593

Examiner

David H Kruse

Applicant(s)

CHAUDHARY ET AL.

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to the Amendment filed 21 October 2003.
2. ☒ The allowed claim(s) is/are 1,6,7,12-17, and 18-24, renumbered 1-9,11-16 and 10 respectively.
3. ☒ The drawings filed on 25 August 2002 and 19 February 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. _____.
- (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☐ Notice of References Cited (PTO-892)
- 2 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3 ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____
- 4 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5 ☐ Notice of Informal Patent Application (PTO-152)
- 6 ☒ Interview Summary (PTO-413), Paper No. 11/03.
- 7 ☒ Examiner's Amendment/Comment
- 8 ☐ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

EXAMINER'S AMENDMENT

1. An extension of time under 37 CFR § 1.136(a) is required in order to make an examiner's amendment, which places this application in condition for allowance. During a telephone conversation conducted on 20 November 2003, Micheline Gravelle requested an extension of time for 1 MONTH(S) and authorized the Director to charge Deposit Account No. 02-2095 the required fee of \$110 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

The Title of the Invention has been replaced with the following -- A LEGUME-LIKE STORAGE PROTEIN PROMOTER ISOLATED FROM FLAX AND METHODS OF EXPRESSING PROTEINS IN PLANT SEEDS USING THE PROMOTER --.

In the claims:

Claims 2 and 8 have been cancelled.

Claim 1 (amended) A method for the expression of a nucleic acid sequence of interest in flax seeds comprising:

(a) preparing a chimeric nucleic acid construct comprising in the 5' to 3' direction of transcription as operably linked components:

(1) a seed-preferred promoter obtained from flax wherein said seed-preferred promoter comprises[:]

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- (i) a] the nucleic acid sequence as shown in Figure 4 [(SEQ.ID.NO.:8)] (SEQ ID NO: 8) [wherein T can also be U:
- (ii) a nucleic. acid sequence that is complementary to the nucleic acid sequence of (i): or
- (iii) a nucleic acid sequence that hybridizes to the nucleic acid sequence of (i).or (ii) under stringent hybridization conditions, wherein said conditions comprise hybridizing in 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C followed by a wash of 2.0 x SSC at 50°C]; and
- (2) said nucleic acid sequence of interest wherein said nucleic acid of interest is non-native to said seed-preferred promoter;
- (b) inducing said chimeric nucleic acid construct into a flax plant cell; and
- (c) [growing said flax plant cell into] regenerating a mature flax plant [capable of setting seed] from said flax plant cell, wherein said nucleic acid sequence of interest is expressed in the seed [under the control of said seed-preferred promoter] of said flax plant.

Claim 7 (amended): Transgenic flax seed prepared according to a method comprising:

- (a) preparing a chimeric nucleic acid construct comprising in the 5' to 3' direction of transcription as operably linked components:
 - (1) a seed-preferred promoter obtained from flax wherein said seed-preferred promoter comprises[:

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- (i) a] the nucleic acid sequence as shown in Figure 4 [(SEQ.ID.NO.:8)] (SEQ ID NO: 8) wherein T can also be U:
- (ii) a nucleic acid sequence that is complementary to the nucleic acid sequence of (i); or
- (iii) a nucleic acid sequence that hybridizes to the nucleic acid sequence of (i) or (ii) under stringent hybridization conditions, wherein said conditions comprise hybridizing in 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C followed by a wash of 2.0 x SSC at 50°C]; and
- (2) a nucleic acid sequence of interest wherein said nucleic acid of interest is non-native to said seed-preferred promoter;
- (b) introducing said chimeric nucleic acid construct into a flax plant cell; [and]
- (c) [growing said flax plant into] regenerating a mature flax plant [capable of setting seed] from said flax plant cell, wherein said nucleic acid sequence of interest is expressed in the seed [under the control of said seed-preferred promoter] of said flax plant[.] ; and
- (d) harvesting seed from said mature flax plant.

At claim 12, line 1, "claim 8" has been amended to -- claim 7 --.

Claim 13 (amended): A [T]transgenic flax plant[s] capable of setting seed prepared by a method [a method]comprising:

- (a) preparing a chimeric nucleic acid construct comprising in the 5' to 3' direction of transcription as operably linked components:

(1) a seed-preferred promoter obtained from flax wherein said seed-preferred promoter comprises[:

(i) a] the nucleic acid sequence as shown in Figure 4 [(SEQ.ID.NO.:8)] (SEQ ID NO: 8) [wherein T can also be U;

(ii) a nucleic acid sequence that is complementary to the nucleic acid sequence of (i); or

(iii) a nucleic acid sequence that hybridizes to the nucleic acid sequence of (i) or (ii) under stringent hybridization conditions, wherein said conditions comprise hybridizing in 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C followed by a wash of 2.0 x SSC at 50°C]; and

(2) a nucleic acid sequence of interest wherein said nucleic acid of interest is non-native to said seed-preferred promoter;

(b) introducing said chimeric nucleic acid construct into a flax plant cell; and

(c) [growing said flax plant cell into] regenerating a mature flax plant [capable of setting seed] from said flax plant cell, wherein said nucleic acid sequence of interest is expressed in the seed [under the control of said seed-preferred promoter] of said flax plant.

Claim 14 (currently) An isolated nucleic acid molecule [capable of directing seed-preferred expression in a plant] comprising;

(a) [a] the nucleic acid sequence as shown in Figure 4 [(SEQ.ID.NO.:8)] (SEQ ID NO: 8) wherein [T can also be U']; or

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(b) a nucleic acid sequence that is complementary to the nucleic acid sequence of (a);

(c) a nucleic acid sequence that hybridizes to the nucleic acid sequence of (a) or (b) under stringent hybridization conditions, wherein said conditions comprise hybridizing in 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C followed by a wash of 2.0x SSC at 50°C].

Claim 15 (amended) A[n isolated] chimeric nucleic acid molecule comprising;

(a) [a first nucleic acid sequence comprising] a seed-preferred promoter obtained from flax which comprises:

[(1) a] the nucleic acid sequence as shown in Figure 4 [(SEQ.ID.NO.:8)] (SEQ ID NO: 8) [wherein T can also be U;

(2) a nucleic acid sequence that hybridizes to the nucleic acid sequence of (a)(1) under stringent hybridization conditions; or wherein said conditions comprise hybridizing in 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C followed by a wash of 2.0 x SSC at 50°C;

(3) a nucleic acid sequence that is complementary to the nucleic acid sequence of (a)(1) or (a)(2);] and

(b) a second nucleic acid sequence non-native to said flax seed-preferred promoter.

Claim 16 (amended) A method for the expression of a nucleic acid sequence of interest in a plant seed comprising;

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(a) introducing the chimeric nucleic acid molecule according to claim 15 into a plant cell; and

(b) [growing said plant cell into] regenerating a mature plant [capable of setting seed] from said plant cell, wherein the second nucleic acid sequence is expressed in the seed [under the control of the seed-preferred promoter] of said plant.

At claim 17, line 1, -- a plant cell -- has been inserted before "selected, and at line 2, " of plants" has been deleted.

At claim 18, -- transgenic -- has been inserted before "plant", and "16" has been amended to -- 24 --.

Claim 21 (amended) Transgenic plant [Plant] seed obtained from the [a] plant [prepared according to the method of claim 10] according to claim 18.

At claim 22, line 2, "nucleic acid sequence" has been amended to -- promoter --.

At claim 23, line 2, "nucleic acid sequence" has been amended to -- chimeric nucleic acid molecule --.

Claim 24 (new) A method of making a transgenic plant comprising:

(a) introducing the chimeric nucleic acid molecule according to claim 15 into a plant cell; and

(b) regenerating a transgenic plant form said plant cell.

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539, **(571) 272-0799 after 6 January 2004**. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218, **(571) 272-0804 after 6 January 2004**. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

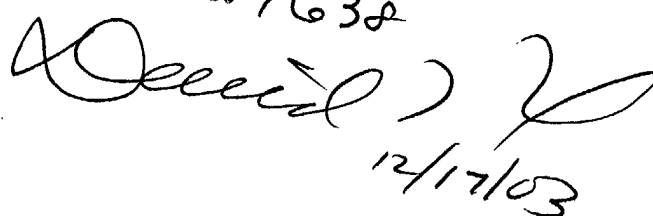
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 308-0196.



AMY J. NELSON, PH.D
SUPERVISORY PATENT EXAMINER
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David H. Kruse, Ph.D.
20 November 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180



12/17/03